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AUTHOR Stice, Carole F.; Bertrand, Nancy P.
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ABSTRACT

This two-year pilot study examined the effectiveness of whole language on the literacy development of selected at-risk children, comparing the performance of nearly 100 first and second graders in whole language and traditional classrooms. Findings showed that children from the whole language classrooms performed as well as their counterparts from traditional classes on standardized achievement tests in reading. Informal, qualitative measures of literacy development indicated that, compared to children in traditional classrooms, children from the whole language classrooms: (1) read for meaning better, corrected more of their mistakes, and retold more fully the stories they read; (2) wrote so much that they did as well or better than their traditional counterparts on spelling, with little or no direct instruction in spelling; (3) appeared more confident in their reading; and (4) appeared to possess a wider variety of strategies related to reading. The study concluded that children in the whole language classrooms appeared to feel better about themselves as readers, writers, and learners; seemed to know more about the reading process, and appeared to learn the mechanics of reading and writing as well as or better than their traditional counterparts without high levels of direct skill and drill instruction; and appeared to be on their way to becoming more independent learners than the children in the traditional program. Thus, the study concluded that whole language (in the hands of trained and committed teachers) appears to be a viable alternative to traditional instruction for young children at-risk. (Fifty-five references are attached, and appendixes contain reading and writing interview data.) (SR)

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Whole Language and the Emergent Literacy of At Risk Children:

A Pilot Study

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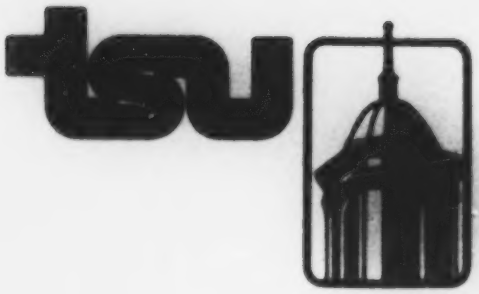

Center of Excellence:
Basic Skills
Tennessee State University
330 10th Avenue, N.
Nashville, Tennessee 37203-3401
Ph. (615) 251-1160

WHOLE LANGUAGE AND THE EMERGENT LITERACY OF AT-RISK CHILDREN: A TWO YEAR COMPARATIVE STUDY

Carole F. Stice, Ph.D.
Professor and Research Associate
CENTER OF EXCELLENCE: BASIC SKILLS
Tennessee State University
Nashville, Tennessee
(615) 251-1160

Nancy P. Bertrand, Ph.D.
Associate Professor
Department of Elementary
and Special Education
Middle Tennessee State University
Murfreesboro, Tennessee
(615) 898-2628

June, 1990

EXECUTIVE SUMMARY

WHOLE LANGUAGE AND THE EMERGENT LITERACY OF AT-RISK CHILDREN: A TWO YEAR COMPARATIVE STUDY

Children of poverty, whether inner-city or rural, generally do not do well in school. They seem to have an especially hard time learning to read and write. Traditional schooling has not been very successful with these children. Recently, there is an alternative paradigm being tried in several locales. This alternative model for instruction is called whole language and refers to a learn-by-doing, integrated, child-centered, literature-based curriculum. The purpose of **Whole Language and the Emergent Literacy of At-Risk Children: A Two Year Comparative Study** was to determine the effectiveness of whole language on the literacy development of selected at-risk children.

The enclosed report summarizes the two(2) year pilot study with at-risk first and second graders in two types of classrooms, whole language and traditional. Nearly 100 low SES children, matched by age, sex, race, and mean score on the SAT were involved in various aspects of the study across the two years.

Two hypotheses were formulated for the study:

1) **Children in the whole language classrooms would perform as well or better than children in the traditional classrooms on formal measures of literacy development.**

2) **Children in the whole language classrooms would perform better than children in the traditional classrooms on informal, qualitative measures of literacy development.**

Relative to the first hypothesis we found that children from the whole language classrooms performed as well as their counterparts from traditional classes on standardized achievement tests in reading. We also found that, in some instances, children in the whole language classrooms performed better than their traditional counterparts on other more informal measures of literacy development.

Specifically, our informal measures indicated that:

1) Children from the whole language classrooms read for meaning better, corrected more of their mistakes, and retold more fully the stories they read than did children in the traditional classrooms.

2) Children in the whole language classrooms wrote so much that they did as well or better than their traditional counterparts on spelling, with little or no direct instruction in spelling.

3) Children in the whole language classrooms appeared more confident in their reading than did children in the traditional program. For instance, when asked, "Who do you know who is a good reader?" eighty-two percent (82%) of the children in the whole language classes responded "Me," while only 5% of the children from the traditional classrooms gave that same answer.

4) Children in the whole language classrooms appeared to possess a wider variety of strategies related to reading than children in the traditional classrooms. When asked ... "What do you do when you come to something you don't know when you read?" Children in the whole language classrooms offered several more options than children in the traditional classrooms.

From these data, several conclusions have emerged. Among them are the following:

1) Whole language in the hands of trained and committed teachers appears to be a viable alternative to traditional instruction for young children at-risk.

2) Children in the whole language classrooms appeared to feel better about themselves as readers, writers and learners.

3) Children in the whole language classrooms seemed to know more about the reading process, and they appeared to learn the mechanics of reading and writing as well or better than their traditional counterparts without high levels of direct skill and drill instruction.

4) Children in the whole language classrooms appear to be on their way to becoming more independent learners than the children in the traditional program.

The philosophy upon which whole language is based is a complex blend of socio-psycholinguistic theories which yield a substantially different set of basic assumptions than those underlying traditional instruction. Whole language is the curricular application of such a socio-psycholinguistic theoretical base. It is not just another method of teaching reading.

As researchers interested in identifying successful learning experiences for at-risk children, we are pleased with the results of this pilot study. For school officials the results of this study should be particularly helpful. Whole language programs provide teachers a viable instructional option to traditional, skills based programs.

The Tennessee State University's Center of Excellence in Basic Skills appreciates your interest in our whole language research. We hope this report will be beneficial in terms of curriculum planning and decision making. This research has been presented nationally at the National Reading Conference, the International Reading Association, the National Council of Teachers of English, elementary strand, and internationally at the World Congress on Literacy.

If you have any questions related to this study, whole language program development and implementation, including inservice training, please contact Dr. Carole F. Stice, Center of Excellence for Research in Basic Skills at Tennessee State University (615) 251-1160. This Study was conducted by Dr. Carole F. Stice, Research Associate at TSU-COE, and Dr. Nancy P. Bertrand, Associate Professor of Elementary Education at MTSU.

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Grateful appreciation is extended to the principals in whose schools we collected data and to the teachers who so graciously opened their classrooms to us, giving their time and attention to facilitate this study.

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Finally, much of the credit for the finished product must go to Dr. Deborah L. Thompson, currently of Old Dominion University, Norfolk, Virginia, and Dr. John E. Bertrand of Tennessee State University, Nashville, Tennessee. These persons contributed to the data collection and analysis and provided editorial assistance at each stage of the various drafts this document has undergone.

Thank you very much.

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Whole Language and the Emergent Literacy of At-Risk Children: A Two Year Comparative Study

Background

The Center of Excellence in Basic Skills is one of several research and development centers in Tennessee. The Center's mission includes fundamental and policy research. The Center's research is aimed at positively influencing the teaching and learning of basic skills, particularly as they relate to students at-risk of not reaching their educational potentials or the educational goals set forth in local, state or national standards.

The Center houses three research units. The Academic Skills Acquisition, School Community Partnerships and Early Childhood Units. The Academic Skills Acquisition Unit (ASA), is currently engaged in ongoing research into the relative effectiveness of instructional programs and curricula on literacy development. Specifically, the ASA Unit has conducted studies on an intergrated, literature-based alternative instructional paradigm called whole language. This research focuses on literacy development with children at-risk of school failure. The research activities have passed through several phases.

Phase One (1984-1986) focused on recruitment of teachers interested in developing whole language classrooms. Extensive recruitment and in-service on whole language was conducted in selected schools. During this time, the emphasis was on developing a solid theoretical foundation on which to base the development of practical application. An in-service manual of

holistic instructional strategy ideas was completed in 1986. A revised edition of the manual was released in 1989 and over 300 copies are in use in Tennessee classrooms. In addition, several small studies related to issues in holistic, literature-based instruction were conducted from 1984-1986 including writing in a whole language kindergarten (Stice and Waddell, 1986), concept mapping as an effective metacognitive strategy for young children (Stice and Alvarez, 1987), the current nature of traditional instruction in regular developmental reading classrooms in Tennessee (Stice and Call, 1987), and the relationship among various personality traits of teachers and their theoretical orientations to reading (Stice, Bertrand, Lueder and Dunn, 1989).

Phase Two of the project (1986-88) consisted of a two-year rationalistic, pilot study in five whole language and five comparable, traditional classrooms. Data collected did not begin until the whole language teachers felt they had adequate training, experience and support to implement what could be recognized as whole language. This study focused on the effects of such a curriculum on the literacy development of at-risk primary grade children as measured by both achievement tests and informal indices of reading and writing. The results of the two-year study are the subject of this report.

Phase Three (1987-88), which overlaps with the second year of the pilot study, is a qualitative, ethnographic style study developed to answer questions that emerged from the data in the first year of the pilot. It is somewhat unusual for a quantitative, experimental study to precede a more naturalistic research endeavor; however, such a sequence may be used to obtain

baseline data establishing the need for more qualitative in-depth observations. The results of Phase Three are reported in a separate document, Whole Language and the Emergent Literacy of At-Risk Children: Building Models of Practice Toward a Theory of Practice.

Rationale

Purpose. The overriding purpose of this pilot project was to provide decision makers, from local school personnel to state education officers, with information and data on the efficacy of whole language as a possible alternative to traditional literacy instruction. The disparity in school achievement and later life success between poor and minority children and their more advantaged counterparts is well documented. Too often poor and minority children are not becoming sufficiently literate to allow the achievement of social and economic parity (Elkind, 1988; Kozol, 1985; McDermott, 1974; Neisser, 1986). Indeed, schools have an unsatisfactory record in even providing equal opportunity to become literate for non-mainstream children. (Mikulecky, 1987). Public schools frequently have rewarded advantaged children who are most likely to become literate with less authoritarian and more enriched programs, while instruction for children who are less likely to become literate seems to be aimed at drilling, correcting, directing, and disapproving of their culture, language, and learning (Brooks, 1982; Collins & Michaels, 1986; Holdaway, 1979). Clearly the cost to the country, not to mention the tragic cost to the individual, is enormous and likely to mount as literacy demands increase.

The two traditional approaches to literacy instruction, the phonic skills (or the traditional/basal) approach, and the decoding, sub-skills (or behavioral/mastery learning) approach, have not proven successful in the case of poor and minority children (Kozol, 1985; Neisser, 1986). Despite their implementation, many economically at-risk children continue to perform poorly on standardized achievement and basic skills, criterion-referenced tests.

As an alternative to more skill and drill, an integrated, holistic instructional program for teaching and learning (i.e., whole language) is rapidly making its presence known in this country. This is a promising model for literacy instruction. Whole language emphasizes a literature based, content enriched environment for children that focuses on using language as a tool for learning. Some aspects of whole language are based on old ideas; for example, many educators have long called for more comprehension centered instruction (Huey, 1908), or more experientially based instruction (Dewey, 1938; Moffett, 1982). Many good teachers have always done some creative language activities with their students, but they tend to be activities unrelated to any larger context.

Whole language as a theoretical, empirically based instructional paradigm is new (Altwerger, Edelsky and Flores, 1987; Goodman, 1986). Whole language teaching involves sets of beliefs and practices that are substantially different from those that support traditional, skills based classrooms (Goodman, 1986). Since whole language is largely new and since it appears

to be a promising area of inquiry, this study focused on the effects of whole language on the literacy development of selected at-risk first and second graders in the Middle Tennessee area.

Research questions. The research sought to answer the following question: What are the effects of a whole language curriculum on the reading and writing development of low socio-economic, inner-city and rural children, grades 1 and 2, compared to the effects of traditional classroom instruction?

Literature Review

In the typical American classroom, an average of 90 minutes per day is set aside for reading instruction. In many cases, this constitutes fully 30% of the total amount of instructional time. When a child in the United States receives reading instruction, it is usually in a lesson taught to a small group of children of similar ability. Virtually all primary grade teachers divide the children in their classes into three groups of high, average, and low ability. Theoretically, ability grouping would allow teachers to pace reading instruction at a more nearly optimum rate for children at each level. Evidence suggests that ability grouping improves the reading achievement of high ability children while deterring that of low ability children (Anderson, Hiebert, Scott, and Wilkinson, 1985; Wuthrick, 1990). Further, research suggests that children's gains in reading achievement are directly proportional to the amount of time they engage in independent silent reading in school (Anderson, et al., 1985). Yet, as Anderson et. al., point out "the amount of time children spend reading in the average

classroom is small ... (typically) 7 to 8 minutes per day, or less than 10% of the total time devoted to reading" (p. 76). The majority of the 90 minutes of so-called reading instruction is devoted to children completing "workbook pages and skill sheets that have doubtful value in learning to read" (Anderson et. al., 1985, p. 86).

Harste and Burke (1977) explored teachers' roles in helping children learn to read and found that both teachers and students have "distinctive and identifiable theoretical orientations to reading" ... and "that subsequent reading performance and classroom behavior was found consistent with the model from which the person was operating" (p. 32). In other words, teachers teach according to what they believe the reading process to be or what the textbook authors believe, and students learn what their teachers teach. These models are a sound/letter or decoding orientation, a basal reader/phonics skills orientation, and a whole language orientation (Harste and Burke, 1977).

Sound/letters or decoding orientation. In this theoretical orientation reading is perceived as an offshoot of oral language in which the reader must learn to manipulate the relationships between the symbols of speech (sounds) and the graphic symbols that represent them (letters). Neither syntax nor semantics are viewed as primary factors in the reading process. Meaning is reached first through the sound-letter system (Cohen, 1977). From Pestalozzi to Rudolf Flesch, many educators have believed that meaning is derived from the recognition of certain letter combinations (Stauffer, p. 7). In addition, this view of reading has come to be accompanied by the belief that such decoding

skills should be taught in a systematic, sequential manner (Dallmam, Rauch, Char & DeBoer, 1982).

Proponents of this theoretical orientation view reading as either synthesis or analysis of words, without much regard for meaning. They appear to believe that reading is, first of all, and essentially, the mechanical skill of decoding, of turning the printed symbols into sounds [oral symbols] which are language" (Harste and Burke, 1977, p. 36).

Critics of phonic or decoding, skills mastery model probably begin with Horace Mann (1838) when he observed that because of the emphasis on letters, most students do not understand the meaning of the words they have read. Today such critics cite several fallacies with the decoding hypothesis. First, "it is not in print that the meaning of written language lies(:) ... readers must bring meaning <u>to</u> print rather than expect to receive meaning <u>from</u> it" (Smith, 1978, p. 50). That is, when a child who is reading with understanding encounters the word "chair" for instance s/he will call upon his/her personal experiences with chairs - the chair s/he sits in at the dinner table, daddy's favorite chair, the story <u>Peter's Chair</u> the teacher read yesterday, and so forth. The poor reader tends to be preoccupied with sounding out, or getting the words, as the main purpose of reading.

Second, there is no rule to tell a child if a word is to be regarded as an exception to the most common sound-letter correspondence. Third, it is not necessary to pronounce a word in order to comprehend its meaning. Meaning is related to the

grammar and context in which words are embedded as well as "to the spelling of words rather than sound" (Smith, 1978, p. 59). Fourth, the most usual and efficient order for fluent readers and for beginning readers when they encounter an unknown word is to skip it and go on, then come back, reread and guess, based on language cues and their prior knowledge and then sound it out (Smith, 1978). That is, good readers utilize all available resources. For example, a good beginning reader encounters the following lines:

Down in the swamp
lived a big-mouthed toad.

One day a giant dragonfly
came by

and

He ate it in one gulp ...

and s/he has some difficulty with the word mouthed. At that point, using sound-letter information, picture support clues, syntactic and semantic cues, as well as any prior knowledge about toads, such as, what they look like, how they behave, etcetera, the reader may produce the exact word. However, if the same good beginning reader elects to skip mouthed, because s/he has sounded it out (moo - thed) and that has not yeilded a word that makes sense, s/he may understand it and return to correct it when s/he reads "ate it in one gulp".

Conversely, a beginning reader who does not utilize all available resources, but seeks <u>only</u> to sound out every unknown word as s/he has been taught, may carry his/her rendition of mouthed (moo-thed) to the end of the story, compounding error

upon error and causing additional comprehension difficulties as the thread of the story is lost.

The question asked by critics of the sub-skills, mastery learning model is not whether phonic information is necessary to good readers; of course it is. The question is how to best help children recognize and efficiently employ sound-letter knowledge in their quest for meaning (Weaver, 1988).

Skills orientation. In this model, reading is treated as one of the four language arts which is taught separately from the others. Reading is viewed somewhat as a set of broad components consisting equally, in their treatment, of vocabulary, decoding, grammar, and comprehension. That is, proponents of the traditional approach define reading only partly in terms of "reading comprehension," a label they do not see as redundant. The main component of reading according to this model is the rapid and accurate decoding of words (Ekwall and Shanker, 1989, pp 221-222). From this model major skill areas are extracted for direct instruction. Skills advocates believe the key to reading success is word identification from which comprehension follows. Emphasis is placed on the reader first identifying each printed word and then relating the words to a meaningful context which is affected by the reader's prior knowledge, interests, etc. Most basal reading programs are designed around this theoretical orientation. This model supports direct teacher led instruction. Proponents believe that children can be trained to read well (Stauffer, 1969). Lessons include instruction in sight vocabulary, the teaching of word recognition "skills" and the teaching of comprehension "skills."

Typically the lesson plan format in the basal reader program directs the teachers to first introduce the "new" words prior to reading the story. Then they are directed to allow the children to read silently, followed by oral re-reading. Finally, a series of questions is provided to guide and judge the children's comprehension. Lessons typically conclude by having the children complete workbook pages and skills sheets independently (Betts, 1946; Stauffer, 1969). Product, not process, is the major concern of those who subscribe to an objective based, skills orientation (See Otto & Chester, 1976). That is, the emphasis is on pronouncing words right, answering comprehension questions correctly, filling out work sheets accurately, and so on.

Although the skills orientation is widely used throughout the United States and in Tennessee as well, this model also has its critics. The skills orientation is deeply rooted in behaviorism; that is, "the print is regarded as the stimulus to which the reader responds with appropriate sounds" (Cochrane, Scalena and Buchanan, 1984, p. 8). While it is true that most good readers perform well on skills tests, "nowhere has it actually been demonstrated that acquiring skills was what made (them) good reader(s)" (Cochrane et. al., 1984, p. 9). Showing that a good reader can do things with fragments of language does not mean that learning the fragments made him/her a good reader.

Goodman, (1986) points out a second flaw in the skills orientation. The belief that the reader must recode from print to oral language in order to comprehend, and that comprehension will naturally occur, is not supported in research or in

practice. Critics of skills instruction argue that comprehension does to some degree follow reading, but to a greater extent is part of the reading act itself. Instead of its being simply responses to stimuli, reading is more truly the interaction between the reader's thought and language and the writer's thought and language. "Language learning ... simply does not fit a behavioristic view of learning which was developed from the observation of animals' trained responses to stimuli. Reading is a thinking process, not an automatic response to print" (Cochrane et. al., 1984, p. 9).

Whole language orientation. In contrast to the skills orientation where advocates view reading as separate from listening, speaking and writing, proponents of the whole language orientation view reading as "one of four ways in which the abstract concept of language is realized" (Harste and Burke, 1977, p. 37). Lindfors (1984) states that "any approach that removes reading from purposeful language ... cannot help children become more effective readers because reading is language" (p. 603).

In a whole language orientation, the systems of language, grapho-phonic, syntactic and semantic, are not only shared but are interdependent and interactive aspects of the reading process. Meaning is the core "enwrapped in a syntactic structure and sheathed with a phoneme-grapheme system" (Harste and Burke, 1977, p. 37).

In contrast to behaviorist theory, whole language is based on a cognitive psychology view of learning, that learning goes from whole to part, "from general to specific, from familiar to

unfamiliar, from vague to precise, from gross to fine, from highly contextualized to more abstract" (Goodman and Goodman, 1981, p. 5). That is the way the human brain is built to learn. In a whole language orientation, literacy is regarded as a natural extension of human language development.

Unlike the skills orientation, there is no formula for whole language (Rich, 1985). Reading and writing are authentic. Workbooks, basal readers, grammar or spelling exercises are not used. Children read trade books and newspapers, environmental print, use reference materials not necessarily written for school use, write stories for publication, receive spelling and punctuation instruction as it is appropriate to the piece of writing they are working on, and produce a variety of other kinds of writing (Edelsky and Smith, 1984). Opportunities for children to interact and collaborate are abundant. Talk is important. Children's literature is present and classroom libraries and reading corners are widely used by the children. Children learn to read by reading and to write by writing (Newman, 1984), with skills development taught in the context of authentic use.

Teachers possessing a whole language orientation believe that the learner is central and that the child is intrinsically motivated to make sense of the world. They believe the responsibility for teaching children to read and write should rest with people instead of programs, with teachers instead of technology (Smith, 1981). They believe that as children use language they learn language and that they use language to learn. Cochrane, et.al. (1984) sum up the whole language position:

> One of the most unenlightened things the teaching profession ever did was to set aside materials, books, and reading periods for the sole purpose of 'teaching' reading. Reading cannot be taught, it can only be learned. (p. 15)

Whole language is more than a method of teaching reading. Whole language is "an attitude of mind which provides a shape for the classroom" (Rich, 1985, p. 719). Teachers possessing whole language orientations are concerned with helping children make sense of the world. They view reading as a process of constructing meaning for themselves based on their need to develop a "theory of the world" (Smith, 1978). Reading is seen as more than accurately reproducing words. The purpose for reading is comprehension. It is not possible to decode from a surface structure that carries no meaning in order to get to comprehension. "Instead, some comprehension of the whole is required before one can say how individual words should sound, or deduce their meaning in particular utterances ...." (Smith, 1978, p. 75). Children read in order to make sense of print and as a consequence learn to read. They learn to read by really reading (Smith, 1978).

Children are surrounded by written language in the world outside the classroom, and they want to make sense of it. As with oral language, they focus on meaning. For children to learn the written language, it too must be natural and not fragmented or reduced and controlled. Therefore, experiences with written language must be authentic. Lastly, reading must not be separate from other learning. Instead, reading is a fundamental tool for

gaining knowledge, a way of vicariously experiencing the lives of others, a means of questioning the views of others (Goodman & Goodman, 1981). The goal of whole language is to help children become independent, life long learners ... curious, knowledgeable, and competent (Edelsky, Draper & Smith, 1983).

Whole language is a grassroots movement among classroom teachers in this country and has not been scrutinized as much as other curricular models. It is not, however, without its critics and skeptics. Most frequently cited as a problem related to whole language is the number of parents who have voiced anxiety concerning whether their children are getting enough of "the basics" (Clarke, 1987; Delpit, 1986; Cambourne, 1988). A second concern cited deals with the apparent chaos, lack of structure, and concern over standards in whole language classrooms. Rather than neat rows of children quietly engaged in "on-task" activities, whole language classrooms tend to be busy and noisy places (Peetoom, 1987). However, the research shows that good whole language teachers have high standards and provide their own classroom structure (Edelsky, Draper & Smith, 1983). Finally, "because whole language instruction relies heavily on student initiated projects, it does not always conform to the expectation of individuals who are accustomed to workbooks, kits, packaged curricula and teacher-centered instruction" (Clark, 1987, p. 391).

Research Design and Procedures

This study was designed as a rationalistic study comparing the scores of matched pairs of at-risk first and second graders on a variety of literacy measures. The following section details the criteria for selection of subjects, classroom conditions from which each child of the matched pair was selected, the socio-economic setting for the subjects and the general data collection and analysis plan. The study was repeated in each classroom for a second year with the same five whole language teachers and three of the same traditional teachers. For reasons beyond the control of the researchers, two new traditional classrooms had to be selected for the second year of the project.

Learning takes place in a social context. The two aspects of classroom context relevant to this study are the classroom environment and the kinds of activities in which the children engage while learning to read and write.

Classroom environments and activities. This study took place in two sets of very different classrooms: five whole language and five traditional classrooms. In whole language classrooms, the children are the central focus. Instruction concerns itself with learning as communicating--on making meaning with a purpose. Children listen to literature; they read and write daily; they integrate their background experiences with their learning in the classroom. Whole language teachers help children become consciously aware of the processes involved in reading and writing through demonstrations and through reading and writing conferences. Children share favorite stories (oral and written)

as well as their own daily writings. An abundance of varied forms of print--newspapers, catalogs, children's literature, magazines, student generated written language, environmental print, etc., is available. Most reading and writing relates to an event of interest or to a thematic unit being developed. Time is set aside daily for both silent reading and silent writing. The teachers spend a good deal of time engaged in "kid watching" (Goodman, 1985) as a means of informal student assessment.

In traditional classrooms, materials are the central focus and instruction concerns itself with the teaching of "basic skills." Due to public concern and administrative pressure about declining test scores, typical reading instruction has come to consist of the directed reading activity using the basal reader text and teacher's manual, together with skill work, drill and testing of isolated skills from the mastery continuum (Stice and Call, 1987).

In 1984, as part of Tennessee Comprehensive Educational Reform Act, school systems implemented a skills mastery continuum for reading assessment, the Basic Skills First, consisting of some 750 or more isolated "skills" to be tested across grades K-8. These skills are correlated to the basal reader to facilitate instruction. Most developmental reading instruction in traditional classrooms also consists of ability grouping and round robin, oral reading using the adopted basal reader and lessons provided in the teacher's manual. In other words, traditional reading instruction throughout Tennessee consists of a combination of so called "skills" instruction using the state's test items and traditional basal reader lessons.

Many of the activities a holistic,literature-based, comprehension-centered program would encourage such as language experience, learning centers, journal writing and reading aloud tochildren, are not possible because teachers have had to make time for direct instruction of isolated skills and for test preparation and administration. Estimates are that it would not be unusual for a primary grade child to complete six to seven workbook and/or ditto sheets a day - amounting to some 1000 such pages per school year.

Clearly then, whole language and traditional instruction are two very different types of classroom environments. One is holistic and literature based; the other emphasizes mastery of isolated skills and employs direct teaching of lessons from the basal reading series and other textbooks.

Research focus. Comparing whole language to traditional instruction is, to some extent, like comparing apples to oranges. While any two programs may be compared, they should not necessarily be compared on a point-by-point basis. That is, one cannot criticize whole language teachers for not using sight word flash cards nor traditional teachers for not implementing thematic units. Ethnographic style studies of these two types of working classrooms would be much more enlightening. However, quantitative/experimental data were used to establish the need for more naturalistic inquiry, since it is equally important to obtain baseline performance prior to in-depth observations. The research questions that drove this study are stated as hypotheses below:

Hypothesis 1: Children in whole language classrooms will perform as well as children in traditional classrooms on standardized achievement test measures of literacy development.

Hypothesis 2: Children in whole language classrooms will perform as well or better on other, more informal measures of reading and writing.

Setting. Two general demographic settings, rural (including small town) and inner city were selected. Each setting contributed at least a pair of classrooms, one whole language and one traditional for both grades one and two. Each classroom contained at least five identified at-risk students as subjects for the study. Of the five pairs of classrooms used, one pair was rural pre-first, one pair was inner-city first grade, one pair was a rural resource classroom--grades 1 and 2 combined, one pair was rural second grade and one pair was inner-city second grade. To identify quality sites in which data could be collected, i.e., good, representative whole language and good, representative traditional classrooms, the researchers established several criteria for selection that examined both the teacher and the program.

The main criterion for selecting whole language teachers was that each had a strong committment to and some training in whole language. Training could consist of enrolling in one or more graduate level university course and/or attending one or more recognized seminar or institute (e.g., the Winter Whole Language Institute sponsored by the University of Arizona in Tucson).

The main criterion for consideration as a traditional teacher was the recommendation of the building principal. Throughout the year, prior to the first year of the actual study, the researchers observed in each potential classroom site and selected the final five pairs of teachers. In all cases, the teachers selected for the study were kind, conscientious, humane people. Also, the children in their classrooms appeared to the researcher to be generally happy in school.

Teachers and children in the selected whole language classrooms exhibited the following attributes:

1. The teacher identified herself as a whole language teacher on the DeFord (1985) Theoretical Orientation to the Reading Process (TORP).

2. The children were engaged in the writing process (Graves, 1983).

3. The teacher planned instructional events based on thematic units to integrate the curriculum.

4. The teacher read aloud several times daily to the children from a variety of sources, both fiction and non-fiction.

5. The children read to themselves daily from a variety of sources, both fiction and non-fiction.

6. The children engaged in formal and informal conferences with the teacher and classmates concerning their writing and their reading.

Teachers and children in the selected traditional classrooms exhibited the following attributes:

1. The teacher identified herself as either a phonics or skills teacher on the TORP.

2. The teacher used ability grouping for reading instruction within the classroom.

3. The children engaged in round-robin oral reading and the directed reading activity (DRA) format.

4. The teacher planned instruction so that each subject was taught separately and was based on a textbook or workbook.

5. The teacher planned instruction based on a skills list.

6. The teacher employed objective-based lesson plans.

Whole language classrooms were identified by the following artifacts:

1. A classroom library containing at least 500 trade books from which children could choose was readily accessible to the children.

2. Children's projects such as book publishing, group stories, science projects, etc., were visible.

3. Children's writing folders containing work in progress were employed in the classroom.

Traditional classrooms were identified by the following artifacts:

1. Teachers' planbook reflected instruction based on the state-mandated skills management system or the local school system's state-approved skills list.

2. The adopted basal reading series was in use as it was designed, following the teacher's manual.

3. Student worksheets and workbook activities for isolated skills instruction were in use on a daily basis.

Subjects. Subjects for this study were fifty children, averaging five each in five whole language classrooms, pre-first, first and second grades, and their fifty matches from traditional classrooms. Five schools in Middle Tennessee were used. Only one pair of classrooms was not located in the same building. Each school had a mix of one or more whole language classrooms among mostly traditional classrooms and served a large population of at-risk children. With two exceptions, the study was repeated in the same classrooms with different subjects for two

consecutive years and the data combined. Each year the subjects selected were initially identified as being at-risk of school failure by virtue of low socio-economic condition and eligibility for free lunch. Each subject also met any three of four additional at-risk conditions:

1). They scored below the mean on the reading comprehension section of the locally administered standardized achievement test.

2). They were identified as at-risk of school failure by the classroom teacher.

3). They were a member of a non-intact nuclear family.

4). They were living in publicly subsidized housing.

These at-risk conditions appear to be highly correlated with school failure (Schorr, 1988) and were specified in the original proposal establishing the Center of Excellence research and development facility.

All low SES children from the whole language classrooms, who were identified as at-risk based on the above conditions, were selected. A student with matched characteristics was sought from the companion traditional classroom. The children were matched using a variety of surface criteria including age within six months, sex, race and same stanine on the total reading section of the locally administered standardized achievement test.

Data collection. Data collection focused on reading and writing produced by the subjects. Data were both quantitative and qualitative and included scores on the reading portions of the Stanford Achievement Test, Primary I and II, Form E (1982), writing samples, oral reading samples, and interviews with the children. Each second grade child's oral reading patterns and

comprehension were examined using guidelines from the Goodman, Watson and Burke (1987) Reading Miscue Inventory (RMI). Oral readings were audio-tape recorded for each child in August/September and again in April/May.

Each child produced a piece of rough-draft writing for the researchers in August/September, January/February and April/May. Writing samples were timed and were taken under similar conditions for all children. Each subject in the pre-first, resource and first grade classrooms was administered Clay's (1979) Concepts About Print survey in August/September and again in April/May. Stones was used as pre-test and Sand as post-test in this case. Lastly, each subject was individually interviewed by the researchers, using adaptations of the Burke Reading and Writing Interviews.

Data analysis. The statistical procedure applied to these data was the two way ANOVA and F-test for significance. These analyses were employed to evaluate between group, gain score differences on achievement test results, Concepts About Print scores, oral reading miscue data and retelling scores, as well as holistic writing scores. Oral reading data were summarized and compared according to the guidelines in the revised RMI (1987). Writing samples were analyzed and compared according to several measures. These included counts of numbers of words, and numbers of sentences produced. While high numbers of words or sentences per sample, have little, if anything, to do with the literary quality of the piece of text, they may, however, indicate something about children's willingness to take risks and their

interest in writing. Numbers of traditional and invented spellings and a holistic rating of quality were also calculated. Miscue analysis and spelling assessment was performed by the researchers only, and the holistic, qualitative scores on writing were assigned to each piece of writing by an outside evaluator from the department of Early Childhood at Tennessee State University.

Limitations. The greatest limitation to the study was the lack of randomization and subsequent matching of subjects. Because the predominant mode of instruction was traditional, the selection of traditional teachers and at-risk children in traditional classrooms posed little problem. However, the number of whole language classrooms was limited, and the selection of at-risk children in whole language classrooms was limited to these classrooms. Matching was used to attain subject similarities, but the process did not fully control for group differences.

By the time the subjects in the whole language classrooms were selected, parental permission obtained and the process repeated in the traditional classrooms, it was well into the second full week of school. Writing samples were collected during the third and fourth weeks of school. Therefore, the children might have already changed due to differing classroom experiences and expectations. The children in the whole language classrooms were already writing a great deal. The reverse was true for reading, however, to the extent that children in the traditional classrooms were making fewer miscues on the first reading assessment than children in the whole language classrooms even though they were nominally matched on reading achievement in

the beginning. The problem of unequal match was handled by applying analysis of covariance. In addition, the last comparison of SAT scores may have been weakened. During the 1987-88 academic year, the school system in which the urban (inner-city) children were located administered the Stanford Achievement Test nearly six weeks earlier in the spring than during the 86-87 academic year.

Another limiting condition was the small numbers of at-risk children and their matched companion class peers available to the researchers. If there had been more whole language classrooms from which to select at-risk children, the findings would have been more reliable in their representation of this population.

A final limitation was the difficulty a traditional teacher in one of the schools had during the first year of the study with the researchers audio-tape recording and analyzing her students' reading a story other than one from the basal reader. The teacher declined to allow the children to be taped reading an unfamiliar text. That problem was essentially one of insufficient groundwork by the principal investigator and was not a problem in the 1987-88 year. It seems likely that the difficulty in gaining access to the children's reading is an index of the level of anxiety over test scores and reading achievement that exists in many classrooms within areas that focus on "basic skills."

Findings

The F-test for significant difference was applied to the gain score data generated from all groups, first and second grades in urban and rural settings for achievement test scores

and other assessments in both reading and writing. Reading and writing interviews were also conducted with each subject. The interview data appear in Appendices A and B.

Achievement test data are the mean stanine scores on the total reading portion of the Stanford Achievement Test administered to all the children. Other reading data analyzed included mean scores on the Concepts About Print survey as well as the oral reading miscue analysis data which included the number of words read, number of miscues, percent of miscues, grapho phonic similarity, syntactic acceptability, semantic acceptability, percent of meaning change, retelling score and percent of omissions. Writing data were compared by number of words written, number of sentences written, number of traditional spellings, number of invented or temporary spellings, number of unique invented spellings and a holistic writing score. All subgroup combinations were compared; however, very few comparisons produced statistically significant differences.

Achievement Data

Analysis of the Stanford Achievement Test, Forms 1 and 2 (SAT scores) yielded no statistical difference for the at-risk learners by grade level or demographic setting.

TABLE 1

Stanford Achievement Test (SAT) Scores for 1986-87 and 1987-88

Stanford Achievement Test (SAT) Scores
Both Years
1986-1987 and 1987-1988

Group	SAT Score Pre-Test	SAT Score Post-Test
Traditional Classrooms (TC)		
Mean	4.0	4.7
StdDev	1.5	1.2
N	41	41
Emerging Whole Language Classrooms (WLC)		
Mean	4.0	5.0
StdDev	1.5	1.4
N	45	45

Finding 1: This study provides empirical evidence that at-risk children in one year of whole language instruction performed at least quantitatively equivalent to the children in traditional classrooms as measured by the Stanford Achievement Test.

Discussion. As seen in Table 1, mean gain scores for all subjects in both the traditional and whole language classrooms show about one year's growth. Therefore, whole language appears to be as viable a curricular model as traditional instruction when measured by achievement tests.

There was one instance of statistical significance relative to achievement test scores and comparison groups. When reading achievement gain scores were compared by grade level for the second year of the study the students in the whole language classrooms scored significantly higher than the students in the traditional classrooms, pre- to post-test. Also, a few statistically significant interaction effects were found. For instance, rural vs. urban comparisons for both years of the study showed that the urban subjects' scores were significantly higher, pre-to post, than the rural subjects. While this may be an interesting statistic, total combined groups interaction effects are meaningless in terms of the present investigation.

Reading Data

Concepts About Print. The researchers felt that the subjects in the pre-first, first grade and resource classrooms would not be able to read fluently enough to obtain sufficient oral reading data for analysis of the miscues. Therefore, the Concepts About Print survey (Clay, 1979) was administered as a pre- and post-test. Subjects read Stones as a pretest, and Sand as a post-test.

TABLE 2

Concepts About Print (CAP Scores) Both Years

Group	CAP Score Pre-Test	CAP Score Post-Test
Traditional Classrooms (TC)		
Mean	12.4	16.8
StdDev	4.8	3.9
N	19	19
Whole Language Classrooms (WLC)		
Mean	9.2	19.6 *
StdDev	3.8	2.7
N	19	19

* F (1, 36) = 24.4, $P < .05$

TABLE 3

CAP Scores Rural-Urban 1987 and 1988

Grade Level	Group	1987 CAP Score Pre-Test	1987 CAP Score Post-Test	1988 CAP Score Pre-Test	1988 CAP Score Post-Test
Urban	TC				
	Mean	12.2	16.8	11.9	18.6
	StdDev	4.1	2.2	3.6	1.5
	N	14	14	7	7
	WLC				
	Mean	10.3	19.4	12.7	21.4
	StdDev	4.4	3.1	2.2	1.9
	N	14	14	7	7
Rural	TC				
	Mean	8.4	12.2	15.7	18.9
	StdDev	4.1	3.3	4.5	2.3
	N	5	5	7	7
	WLC				
	Mean	6.1	20.9*	7.6	17.0**
	StdDev	2.4	2.1	3.4	1.6
	N	5	5	7	7

* F (1,18) = 11.7, P < .05.

** F (1,26) = 10.5, P < .05.

Finding 2: At-risk subjects in the whole language classrooms appear to be learning more about bookness and print than their counterparts in traditional classrooms.

Discussion. Table 2 illustrates that a statistically significant difference was found in favor of the scores from the whole language classrooms. That is, the whole language group scores, pre to post, increased significantly more than the

traditional group scores. While these subjects scored lower on the pre-CAP, they scored significantly higher on the post-CAP.

Table 3 shows the scores of the children in the rural whole language classrooms increased significantly more than those of the traditional classroom. Occasionally, classroom comparisons or other subset comparisons were statistically significant. For instance, regarding the CAP, the scores of the students in two whole language classrooms were significantly higher, pre to post, than the scores of the students from their traditional matched classrooms. There were few of these subgroup significant differences and they may be attributed to the skill of the specific whole language teacher(s) involved. These data indicated interesting trends.

Oral reading data. Oral reading data were taken from two whole language second grade classrooms and one traditional second grade classroom the first year of the study. The other traditional second grade teacher would not allow the researchers to audio-tape record her students reading from an unfamiliar text. Each child read either A Letter to Amy (Keats, 1968) or The Carrot Seed (Krauss, 1945). However, in the second year of the study data were collected from subjects in both whole language and both traditional second grade classrooms.

TABLE 4

Mean Retelling Scores - Both Years

Group	Retelling Score Pre-Test	Retelling Score Post-Test
TC		
Mean	21	32
StdDev	12	14
N	14	14
WLC		
Mean	24	44*
StdDev	17	13
N	25	25

* F (1,37) = 13.1, $P < .05$.

Finding 3: The most striking finding, when examining the retelling scores for comprehension, was that the retelling scores for the children in the whole language classrooms were significantly higher than those from the traditional classrooms.

Discussion. Table 4 shows that subjects in whole language classrooms retold longer, more complete versions of the stories they read. No difference in the sheer numbers of miscues between the two types of classrooms was found. Both groups read the same stories and both groups produced fewer miscues in the post-reading. Apparently both groups learned to better utilize the reading process. Both groups grew in their use of grapho phonic information. The subjects in the traditional classrooms appeared to use these cues efficiently to produce words. No significant difference was found.

Similarly, both groups of children produced a high number of standard English sentences (syntactically acceptable) on post assessment. Both groups grew in their use of grammatical cues. No statistically significant difference was found.

TABLE 5

Mean Percent Semantic Acceptability - Both Years

Group	Semantic Acceptability Pre-Test	Semantic Acceptability Post-Test
TC		
Mean	69.8	69.1
StdDev	25.3	23.4
N	15	15
WLC		
Mean	59.9	75.2
StdDev	23.3	15.9
N	27	27

Finding 4: At-risk children in the traditional classrooms showed no growth in constructing semantically acceptable sentences while their counter-parts in the whole language classrooms appeared to make considerable progress across the year, even though the scores did not quite reach statistical significance.

Discussion. Scores reported in Table 5 indicate that when readers are learning to comprehend, they construct sentences that have meaning (semantic acceptability). Scores for the whole language classrooms approached statistical significance.

The next three tables report growth in learning to self-correct during oral reading. Self-correction of errors or miscues that damage the meaning is an indication of growing control and independence for the learner.

TABLE 6

Mean Percent Corrected Miscues - Both Years

Group	Percent Corrected Miscues Pre-Test	Percent Corrected Miscues Post-Test
TC		
Mean	19.2	18.6
StdDev	18.4	12.4
N	15	15
WLC		
Mean	11.3	33.8*
StdDev	10.7	16.1
N	26	26

*F (1,39) 20.2, P <.05.

Finding 5: Children in the traditional group made no progress in the frequency or success with which they corrected their own oral reading miscues, while children in the whole language group made significant growth during the year in their ability to self correct.

Table 7 shows that within group comparisons favor the whole language classrooms by grade level.

TABLE 7

Mean Percent Corrected Miscues By Grade Level - Both Years

Grade Level	Group	Percent Corrected Miscues Pre-Test	Percent Corrected Miscues Post-Test
Second	TC		
	Mean	18.7	19.1
	StdDev	18.1	12.3
	N	15	15
	WLC		
	Mean	10.9	34.4*
	StdDev	11.1	16.2
	N	25	25

*F (1,38) 14.5, P < .05.

Table 8, shows that within group comparison favor the whole language urban classrooms.

TABLE 8

Mean Percent Corrected Miscues Urban-Rural - Both Years

Urban vs. Rural	Group	Percent Corrected Miscues Pre-Test	Percent Corrected Miscues Post-Test
Urban	TC		
	Mean	15.2	14.8
	StdDev	16.1	6.4
	N	15	15
	WLC		
	Mean	7.1	28.9*
	StdDev	10.3	17.2
	N	15	15
Rural	TC		
	Mean	20.7	19.8
	StdDev	19.9	14.6
	N	10	10
	WLC		
	Mean	17.8	19.4
	StdDev	9.1	13.8
	N	10	10

*F (1, 28) 18.2 P < .05.

Finding 6: Children in the whole language classrooms were apparently becoming independent readers, and children in the traditional classes were not making the same progress. (See both Tables 7 and 8.)

Discussion. Correcting miscues that damage grammar and meaning during reading is an important indication of growing control over the reading process and an indication of greater independence as a reader. Table 6 shows that at the end of the year children in the whole language program understood how to self-correct significantly more of their oral reading errors or miscues than did the children in the traditional classrooms.

Writing Data

Writing. Writing data were taken three times across each academic year, once in August/September, and again in April/May. During the first year, 1986-87, three or four of the target children were taken out of the classroom and into a quiet room. Each subject was provided a booklet consisting of three pages of blank paper, folded in the middle, with a piece of folded construction paper stapled onto the outside. The children were asked to write a story in their blank booklets. The children were told they could write about anything, but they were encouraged to write about something real. When asked, the researchers told the children to spell the words the way they thought they should look and that spelling did not count anyway. The children knew they were writing for the people from the University who collected children's written stories. They were allowed to write for fifty minutes. Within these parameters, those children from the whole language and the traditional classrooms at the first and second grades, who could and would, produced three pieces of written text for this study, throughout the school year.

During the 1987-88 school year, writing samples were also collected in August/September, and again in April/May. However, this time the writing samples were taken from in-class activities. On the same days, writing was collected from all the children. Children in the traditional classes wrote as seat work, and a rough draft, taking comparable time (approximately 50 minutes), was produced by the children in the whole language classrooms.

Numerous measures of writing were taken such as number of words, numbers of sentences, and numbers of independent clauses plus modifiers (T-Units) per sentence. No statistically significant differences in gain scores were found. The traditional group produced an average 25 words per sample in the fall and an average of 54 words in the spring. The whole language group produced a total of 33 words per sample in the fall and an average of 70 words in the spring. The traditional group wrote an average of 4 sentences per sample in the fall and 7 in the spring. The whole language group wrote an average of 4 sentences in the fall and 9 in the spring. Both groups doubled in their use of T-Units.

TABLE 9

Holistic Scores - Both Years

Groups	Holistic Score Pre-Test	Holistic Score Post-Test
Traditional Classrooms (TC)		
Mean	1.5	2.2
StdDev	1.2	1.2
N	45	45
Emerging Whole Language Classrooms (WLC)		
Mean	1.7	2.8
StdDev	1.3	1.3
N	52	52

Subjects in the whole language classrooms wrote slightly longer texts than the children in the traditional classrooms. When the data are combined from both years, the mean number of sentences for the whole language classrooms is nine and the mean number of words written is seventy. For the children in traditional classrooms, the means are seven and fifty-four respectively. The only between groups significant difference was obtained for the second year of the study and favored the writing scores of the rural students from the whole language classrooms.

Finding 7: Occasionally, as with the holistic writing measures, two (and sometimes three) of the individual whole language classrooms produced significantly higher growth than the other whole language classrooms on some of the comparisons. This led to a tentative conclusion. The effectiveness of a whole language paradigm may be proportional to the understanding of the teachers who employ it.

Discussion. Table 9 presents the results of a holistic score on each of the pre-post writing samples for both years of the study. The scores were based on a scale from 0-5 with 0 being a pre or early phonemic stage and five a fully formed story with few mechanical problems. The writing samples were evaluated and scores were assigned by a person not connected with the study. The Early Childhood Education Department at Tennessee State University provided a faculty member who evaluated each piece of children's writing on a scale from zero to five. Each selection was coded so that the evaluator did not know what grade or under what conditions the writer produced the text. The evaluator knew

that all the children were local first and second graders and that the samples were rough drafts produced in less than one hour. Almost every writing draft was considered to be less than a fully developed, mechanically correct text. Growth occurred in both sets of classrooms with the children in the whole language classrooms making slightly greater progress in writing. No statistically significant difference was obtained using this measure.

Spelling. One of the most frequently asked questions concerning children's achievement in whole language classrooms involves spelling. Three measures of spelling were taken: mean numbers of conventionally spelled words, mean numbers of invented or temporary spellings and mean numbers of unique temporary spellings. Temporary or invented spellings are words that are not spelled correctly but are readable, that is, words that show some degree of approximation toward conventional spelling patterns (Read, 1979). Invented or temporary spellings are quite natural and a valuable part of the learning process (Cambourne, 1988; Henderson, 1985). Unique spellings, a term devised for this study, are the numbers of different words each child attempted to spell.

TABLE 10

Mean Number of Conventional Spellings - Both Years

Group	Traditional Spellings Pre-Test	Traditional Spellings Post-Test
(TC)		
Mean	22.4	51.1
StdDev	23.6	42.7
N	42	42
(WLC)		
Mean	21.4	54.9
StdDev	35.4	41.4
N	51	51

Finding 8: While no statistically significant differences appear on growth in spelling, the children in the whole language classrooms perform as well on conventional spelling as children from the traditional program.

Discussion. The fact that children in the whole language classrooms attempted to spell more different words may indicate they are learning more words and/or are becoming greater risk takers. That is, they appear to be more willing to use their growing vocabularies than are children in traditional programs.

The whole language teachers in this study did not use spelling books or workbooks nor did they give their students lists of arbitrary words to be memorized and tested every week. Rather, spelling words came from the children's writing.

TABLE 11

Mean Number of Invented and Unique Spellings - Both Years

Group	Invented Spellings Pre-Test	Invented Spellings Post-Test	Unique Spellings Pre-Test	Unique Spellings Post-Test
TC				
Mean	6	9	5	7
StdDev	6	9	5	7
N	42	42	40	40
WLC				
Mean	8	17	5	16
StdDev	10	14	5	12
N	51	51	46	46

Finding 9: Subjects in the whole language classrooms doubled their use of invented spellings and tripled their use of unique spellings (See Table 11).

Discussion. The numbers of invented spellings and unique spellings found in the children's writing, although of no significant difference, do show an interesting trend. This measure may indicate both more willingness to take risks on the part of the children in the whole language classrooms and broader use of, and perhaps growth in, vocabulary.

Interview Data

Formal interviews were conducted individually with each child over the two year period. They were audio-tape recorded and transcribed for analysis. Raw data were converted to percentages for more easily readable comparisons between the two groups. Data from both reading interviews, 1986-87 and 1987-88, are followed by those from the writing interviews for the

same two years. An adaptation of the Burke Reading and Writing Interviews was used. Compiled transcripts of the reading interviews are found in Appendix A. Compiled transcripts of the writing interviews are found in Appendix B.

The questions were intended to generate conversation and serve primarily as a framework for discussion. Questions were chosen to reflect the researchers' hypotheses concerning literacy development in the two types of classrooms and the children's perceptions about reading and writing and their functions. It was hypothesized that qualitative differences between the two types of classrooms could be found. The interview data do reflect differences in the ways the children report their perceptions of literacy and literacy instruction.

Data from the reading and writing interviews provide a number of interesting insights. First, children in the whole language classrooms had a greater awareness of alternative strategies for dealing independently with unknowns. For example, when asked, "When you are reading and you come to something you don't know, what do you do?" children in whole language classrooms suggested several independent strategies, while children in traditional classrooms, for the most part, suggested only two types, "sound it out" and "ask for help." Second, children in the whole language classrooms appeared to feel better about themselves as readers and writers. More than eighty percent of children in whole language classrooms reported "me" when asked, "Who do you know who is a good reader?" Only five percent of the children in traditional classrooms answered "me"

to that question. Third, children in whole language classrooms appeared to focus more on meaning and the communicative nature of language. For example, when asked, "What makes a good reader," they reported that good readers "read a great deal" and that they can "read any book in the room." Children in traditional classrooms tended to focus on words and the correctness of surface features and reported that good readers "read big words", "know all the words", and "do not miss any words." Fourth, children in whole language classrooms approached writing as making meaning whereas children in the traditional classrooms perceived it primarily as handwriting or mechanics. For example, when asked "What makes _____ a good writer?," the children in the whole language classrooms reported "s/he writes a lot," or "s/he writes good stories"; while the children in the traditional classrooms said "s/he is neat", "s/he gets it right", and "s/he tries hard." Fifth, children in the whole language classrooms appeared to have a better understanding of the connection between reading and writing than did children from the traditional program. For example, when asked, "What is reading?" forty-eight percent of the children in the whole language classrooms said it's what makes you a good writer or it's talking to the reader if your the writer and talking to yourself if your the reader. From the traditional classroom thirty-four percent of the children responded to that same question by saying reading was what you do with books and thirty-four percent said it was sounding out the words.

Finding 10: Data from the reading and writing interviews indicated that the children in the whole language classrooms appeared to be learning more about the reading and writing processes, to be growing in their understanding of the connections between reading and writing, and to be developing greater independence in both reading and writing than their matched counterparts. Conversely, children in the traditional classrooms seemed to have less awareness of process, to be less aware of the relationship between and among language forms, and to be more dependent on the teacher in both reading and writing.

Summary

Achievement

The two groups were well matched regarding initial achievement test scores. The whole language classrooms attained slightly higher achievement test scores on post-tests than the traditional classes. Although the differences were not statistically significant, both groups essentially attained grade level achievement at the end of the year. Nevertheless, the original research question was answered. Whole language as an alternative curriculum was as viable as traditional instruction when measured with standardized achievement tests. In addition, the children from the whole language classrooms out performed the children from the traditional classrooms on several more informal measures of reading and writing.

Reading

Scores on Concepts About Print survey, (Clay, 1979), indicating knowledge of bookness and print familiarity, were significantly greater for whole language classrooms. Retelling scores on the RMI (Goodman et al, 1987) were not significantly different on post-tests between the two groups; however, these data also suggest that children in whole language classrooms were more accustomed to discussing stories rather than responding to a set of pre-determined questions.

On use of cueing systems and use of meaning making strategies, the scores for the whole language group reached statistical significance on several measures. The children in the whole language group appeared to have been slightly poorer readers in August/September and significantly better readers in April/May on many of the indices analyzed in the RMI. Children in the whole language classrooms were able to self correct significantly more of their oral reading errors and they also showed greater growth in producing meaningful oral texts. Therefore, the whole language classrooms appear to be helping children grow as readers more than the traditional classrooms.

Writing

Very few measures of the children's writing produced statistically significant differences. The most interesting trends were relative to spelling. With regard to quality of stories (i.e., holistic scores) the children in the whole language classes wrote somewhat better stories; however, a problem with the data collection plan in the first year of the study may have washed out some potential differences.

The amount and quality of text produced for the last data collection in April/May dropped off dramatically even though in total the children in the whole language group produced more text over the entire year than did the children in the traditional program. The explanation comes from the children themselves. In August/September both groups of children were eager to write any time. In April/May, however, the whole language group had internalized what they had been experiencing all year. They did not want to write for arbitrary reasons. They asked such questions as: "Why are we doing this?" "Do we have to?" "I have a story I am already working on and I don't want to leave it." "Who's going to read this?" "Are we going to get a chance to revise and edit?" They did not like the answers they got. They wrote, but appeared to do so grudgingly. The researchers had violated their own beliefs and the children told them so.

The traditional groups, on the other hand, remained eager to write, offering such comments as, "Oh boy, we get to write another story!" It is not recommended that teachers deprive children of the chance to write in order to increase their desire to do so. The post data collection procedure for the second year of the study was altered.

Data for the second year of the study show that both groups of children grew in terms of the amount and quality of text they produced under demand conditions. While few statistically significant results emerged, there were strong trends favoring the whole language groups (See Table 10). Statistical significance did occur occasionally across individual classroom

comparisons. One whole language teacher in particular frequently produced much higher scores than any of the other teachers, and one seemed to be consistently lower than the other whole language teachers while remaining at a par with the traditional classroom groups for both years.

Spelling

In general, the data demonstrate that children in the whole language classrooms learned to spell, without direct instruction, as well as children in the traditional classrooms who were using spelling workbooks and taking weekly tests on arbitrary lists of words. Children in the whole language classrooms also appeared to attempt to spell more words than their traditional counterparts.

Interviews

The trends in the interview data are numerous. The ones of most interest are:

1. Children in the whole language classrooms appeared to have more to say about nearly every question than the children in traditional classrooms.

2. Children in the whole language classrooms seemed to have greater awareness of alternative strategies for dealing with problems in their reading and writing.

3. Children in the whole language classrooms appeared to view good readers and good writers a bit more realistically in understanding that all readers and writers encounter difficulty from time to time.

4. Children in the whole language classrooms appeared to feel better about themselves as readers and writers.

5. Children in whole language classrooms appeared to focus more on meaning and the communicative nature of language. Children in the traditional classrooms seem to focus more on words and correctness or surface features.

6. Children in the whole language classrooms talked about working with each other and helping each other more than children in traditional classrooms.

7. Children in the whole language classrooms appeared to be developing greater independence in both reading and writing. Children in traditional classrooms seemed to be more dependent on the teacher if their initial strategy fails.

8. Finally, data confirm that children learn what teachers teach and that teachers teach according to their beliefs and theoretical orientation.

Conclusions

Both initial hypotheses were confirmed. First, at-risk children in the whole language classrooms performed as well as their matched conter-parts in the traditional classrooms on standardized, achievement test measures . However, one year of whole language may not be sufficient for full differences to emerge. Perhaps two, three or more years of such a curriculum are needed before differences are translated into such gross measures as standardized achievement test scores. Second, at-risk children in the whole language classrooms performed as well or better than the at-risk children in traditional classrooms on many other, more informal measures of reading and writing, and they demonstrated qualitative differences in their knowledge of the reading and writing process and of themselves as literate persons.

The following are general summary conclusions. First, there are major differences in the nature of the two kinds of instructional programs investigated in this study, and there are major differences in the products from these opposing instructional view points. Second, whole language classrooms

apparently enhance at-risk children's literacy development in a wider variety of ways than traditional classrooms. Third, the data also suggest that whole language can be a viable alternative instructional paradigm for at-risk children in both rural, and inner-city settings.

Tententative conclusions may be drawn from these data:

1. At risk children in one year of a whole language instructional program performed as well or better than their matched counterparts from traditional classrooms on all measures of reading and writing.

2. Beginning readers in the whole language program appeared to learn more about bookness and the nature of print than did their matched counterparts from traditional programs.

3. Children in the whole language classrooms appeared to be developing better reading comprehension than the children from the traditional classrooms. That is, they retold longer and more complete versions of the stories they had read.

4. Children in the whole language classrooms appeared to learn more about the reading and writing process than their matched counterparts from the traditional classrooms. That is, they learned to construct more meaningful sentences.

5. Children in the whole language classrooms appeared to be learning more about the reading process than the children from the traditional classrooms. That is, they successfully self-corrected more of their oral reading errors or miscues.

6. Children in the whole language classrooms appeared to have become more independent in their reading than children in the traditional program. That is, they described a greater number of options for handling unknowns during both reading and writing.

7. Children from the whole language classrooms appeared to be learning the conventions of written language, i.e., spelling, punctuation, sentence structure, story structure, etc., as well or better than their matched counterparts from the traditional classrooms.

8. Children in the whole language classrooms appeared to be using a wider range of vocabulary and learning to be greater risk-takers than children from the traditional classrooms. That is, they used a greater number and wider variety of words in their writing.

9. Children in the whole language classrooms appeared to be developing greater awareness and use of their own resources, better attitudes toward reading and writing, and therefore greater confidence in themselves as readers, writers and learners than children in the traditional classrooms.

10. Whole language as the application to classroom instruction of a socio-psycholinguistic theory or philosophy of human learning may be only as effective as the knowledge base and commitment of the teachers who attempt to implement it.

Implications

If whole language is indeed a viable alternative to traditional, skills-based instruction with at-risk children, it is so only for teachers who wish to pursue it. School systems may elect to offer teachers the option of learning about whole language and developing their own whole language classrooms. This will involve school and system level support and changes in the ways these teachers are evaluated.

Because whole language is a movement making its presence known in every corner of our country, including Tennessee, school officials are currently preparing themselves to reckon with it. This movement is not to be feared. These data suggest that whole language, in the hands of committed and competent teachers, is preferable in many ways to what is now the pervading curriculum. Considering that much of what is currently happening in classrooms appears to be "teaching to the test" rather than teaching for real learning, (Stice and Call, 1987), these achievement test comparison results are actually remarkable.

If whole language offers hope for at-risk children, but is only as good as the teacher who implements it, the real burden then falls to teacher education. Any educational philosophy that is only simplistically and superficially understood will yield poor results. Whole language is certainly no exception. Changes in both preservice and inservice education, teacher assessment, pupil evaluation, parent education, material selections, expenditures, school organization, teacher time allocation, and curriculum guides may become crucial. Perhaps most important of all, whole language offers a change in philosophy, in the way educators think about learning, teaching and children. Whole language, as with a traditional instructional paradigm, is a curriculum. It is a way of organizing and presenting; it is a set of beliefs about what is good for children, how children learn language and how they use language to learn, it is <u>not</u> a method of teaching reading.

The literature currently abounds with calls for restructuring schools (Shanker, 1990; Eisner, 1990), and with the position that the crucial element in learning is the substance of the child's classroom experiences (Glasser, 1990). Whole language advocates believe that a more holistic, literature-based, experiential and integrated curriculum may indeed constitute the first real progress in teaching/learning since open education. It will take a great deal of care to prevent whole language suffering a similar fate.

Progressive education and the open, informal classroom were positive movements with much promise for improving education. However, they were never implemented as the developers intended. Instead they were misapplied and only superficially understood. It is not surprising they failed. If whole language is to have any hope of a fair trial, its theoretical base, essential components and the processes involved in its development at the classroom level must be fully understood.

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APPENDICES

Appendix A

The Reading Interview
1986-87

Traditional Classroom (TC) (N=21)		Emerging Whole Language Classroom (WLC) (N=22)	
1. a. When you are reading and you come to something you don't know, what do you do?			
sound it out	64%	skip it and go on; then come back	60%
stop and think	36%	sound it out	30%
b. Do you ever do anything else?			
no	57%	ask teacher	40%
ask someone	36%	sound it out	33%
		skip it and go on; then come back	25%
2. Who is a good reader that you know?			
parent	61%	self or classmate	95%
friend	29%		
self	5%		
teacher	5%		
3. What makes him/her a good reader?			
reads big words	44%	can read any book in this room	34%
doesn't miss any words	27%	helps others	25%
tries hard	24%	knows all the words	17%
		practices at home	17%
		reads fast and sounds good	8%
4. Do you think that she/he ever comes to something she/he doesn't know when she/he is reading?			
yes	54%	yes	75%

5. If yes: When she/he does come to something she/he doesn't know, what do you think she/he does about it?

   If no: Suppose that she/he does come to something that she/he doesn't know. Pretend what you think she/he does about it.

	TC (N=21)		WLC (N=22)	
	sound it out	39%	skip it and go back	42%
	don't know	29%	skip it	25%
	skip it	25%	ask teacher or someone else	25%
	ask someone	14%		

6. If you know that someone was having difficulty reading, how would you help them?

	tell them the word	38%	tell them the word	48%
	sound it out for	38%	skip and go on then come back	42%
	give them hints/help them think	20%	tell them to do their best	9%

7. What would a/your teacher do to help that person?

	help them with the word	38%	get lots of books	27%
	help them write or spell correctly	22%	make them read a whole book	27%
	listen to them read	14%	make them read & write	14%
	have someone else help them	9%	read to them	14%
			make them read a story over and over	14%

8. How did you learn to read?

	parent(s) or family member	51%	1st grade teacher	33%
	1st grade teacher	43%	practice	27%
			parents helped	14%
			just knew	14%

9. What would you like to do better as a reader?

	know the words better	33%	read lots of good books	33%
	don't know	25%	have fun	27%
	write better	10%	reading hard words when I come to them	25%
			read about important things (learn)	14%

The Reading Interview
1987-88

	Traditional Classrooms (N=31)		Emerging Whole Language Classrooms (N=30)	
1. a. When you are reading and you come to something you don't know, what do you do?				
	sound it out	42%	skip it	42%
	ask someone	35%	think/guess	35%
	think/guess	13%	ask someone	12%
	skip it	7%	sound it out	12%
b. Do you ever do anything else?				
	no	35%	guess	42%
	ask teacher	23%	no	31%
	sound it out	25%	ask for help	23%
	wait	3%	spell it to myself	8%
2. Is your teacher a good reader?				
	yes	90%	yes	96%
	no	10%	no	4%
3. What makes him/her a good reader?				
	she knows all the words	36%	reads a lot	70%
	she went to school	16%	reads aloud a lot	17%
	reads a lot/practices	16%	writes a lot	13%
	reads fast	12%		
	she just is	8%		
	she can sound out words	8%		
	don't know	8%		
4. Do you think that she/he ever comes to something she/he doesn't know when she/he is reading?				
	no	46%	yes	58%
	yes	38%	no	30%
	sometimes	15%	sometimes	15%
5. If yes: When she/he does come to something she/he doesn't know, what do you think she/he does about it? If no: Suppose that she/he does come to something that she/he doesn't know. Pretend what you think she/he does about it.				
	ask someone	33%	skips it & comes back	46%
	skips it	21%	thinks	27%
	thinks	17%	sounds it out	15%

TC (N=31)		WLC (N=30)	
sounds it out	13%	gets help	11%
guesses	9%	asks someone	7%
if she makes a mistake, she fixes it	9%		
don't know	4%		

6. If you knew that someone was having difficulty reading, how would you help them?

tell them the word	39%	come back to it later	35%
help them sound it out	36%	ask if they need help	14%
read for them	11%	sound it out	13%
don't know	7%	tell them to look it up	4%
show them the word	4%		
play school	4%		

7. What would your teacher do to help that person?

tell them to practice/ read alot	46%	tell them to think	41%
tell them to be quiet	8%	try/study/practice	30%
let someone help	8%	read a lot of hard books	15%
bring a group	8%	don't know	8%
tell the word	8%	write a lot	4%
don't know	8%	take time	4%
blend	8%		
talk aloud to them	8%		

8. What would your teacher do to help?

learn to sound out	26%	come and help us with clues	62%
do it for them	23%	tell us to sound it out	23%
tell them the words	18%	tell us the words	15%
tell them to read the directions	13%		
don't know	9%		
tell someone else to help	9%		
correct them	9%		

9. a. How did you learn to read?

teacher taught	33%	teacher taught	22%
practice	15%	teacher made me write	13%
by reading	11%	parents helped	13%
don't know	11%	sound it out	9%
parent(s)	11%	by listening	6%
sister/brother	7%	pictures helped	3%

TC (N=31)		WLC (N=30)	

b. How did _____ help you learn how to read?

teacher gives me clues	27%	told me to skip and try again	28%
sound it out	20%	gave me little books to read	21%
don't know	20%	tell the words	10%
tell me to repeat after	20%	gave me clues/sound it out	10%
read at home	13%	can't remember	3%

10. What is reading?

reading in books	35%	talking to a whole lot of people if you're the writer and reading to yourself	37%
don't know	13%	fun	26%
sounding out words	13%	makes you a good writer	11%
fun	13%	words are letters and stuff	11%
from reading cards	9%	don't know	7%
saying words	9%	something you do with a book	7%
something important	4%		
something to do when you are bored	4%		

11. a. What do you like about reading?

it's fun	46%	it's fun	46%
the pictures	17%	helps me learn	25%
rhyming words endings "ed" blending..	17%	the pictures	13%
like the words	13%	the words	13%
interesting	4%	when you don't have anything else to do you can read	4%
nothing	4%		

b. What do you dislike about reading?

nothing	24%	nothing	38%
it's hard	24%	hard words/things	18%
messing up	24%	it takes too long	12%
don't know	18%	I don't know	12%
bad stuff like the wolf eating the little pigs	6%	if people laugh when I don't know a word	12%
when you grow up you might not know all the words	6%	mean stuff	6%

TC (N=31)		WLC (N=30)	

12. What would you like to do better as a reader?

read the words/read right	35%	write more/be an author	24%
I don't know	27%	read published books/ read more	24%
be an artist	17%	be an artist	24%
read books	13%	don't know(nothing)	8%
get more time to play with frogs	9%	read to others	8%
write reports	9%		
spell better	9%		
help my brother	9%		
be quiet and not talk	9%		

13. Can you read without a book?

yes	43%	yes	62%
no	33%	no	29%
maybe	24%	sometimes signs like "come in"	10%

14. Are you a good reader?

yes	33%	yes	70%
no	24%	no	13%
sometimes	13%	I write a lot	7%
don't know	13%	I read more	7%
		don't know	3%

15. Why do people read?

to learn	44%	to help them learn	54%
for school	22%	it's fun	15%
when they grow up	22%	when they grow up	12%
they want to	12%	to write	12%
		for school	4%
		don't know	4%

Appendix B
The Writing Interview
1986-1987

	Traditional Classroom (N=24)		Emerging Whole Language Classroom (N=22)	
1. a.	When you are writing and you encounter difficulty, what do you do?			
	ask for help	67%	ask someone for help	41%
	erase	17%	think about it	23%
	try to sound it out	8%	try my best	9%
	stop	8%	circle it and go on	9%
			erase	9%
			sound it out	5%
b.	Do you do anything else?			
	didn't know	90%	draw a black line and come back to it	32%
			ask someone, ask teacher	23%
			leave it out	18%
			scribble it out and circle it	9%
			try to figure it out	9%
2.	When your writing is interrupted, what do you do?			
	tell them to leave me alone	26%	tell them to wait just a minute	23%
	tell teacher	21%	mark the place & stop	14%
	move	13%	move to quieter place	14%
	do it over	8%	try to remember what I was writing	14%
	just stop then start where I left off	8%	do what they want and go back to work	9%
			tell the teacher	9%
			do it over	9%
			give them a punch	5%
3. a.	Who is a good writer that you know?			
	named a friend or classmate	86%	classmate	69%
	mom	13%	teacher	34%
b.	What makes him/her a good writer?			
	isn't messy	33%	spells good	21%
	does his work	21%	writes good stories	21%
	writes in cursive	17%	knows a lot	17%
	stays in the lines	17%	looks neat	14%
	takes his time	8%	writes in cursive	9%

TC (N=24)		WLC (N=22)	
writes better than anybody else	6%	think before they write	9%
		uses skinny pencil	5%

4. a. Do you think that s/he encounters difficulty when s/he is writing?

no	85.7%	yes	84%

b. If yes: When s/he encounters difficulty when writing, what do you think s/he does about it?

If no: If s/he ever did encounter difficulty when writing, what do you think s/he would do about it?

ask teacher	33%	ask somebody	32%
ask classmate	25%	does the best s/he can	18%
I don't know	17%	erases and replaces	14%
sound it out	17%	get a partner	9%
		looks it up somewhere	9%

5. If you knew that someone was having difficulty writing, how would you help them?

tell them how to spell it	33%	write it for them	34%
write it for them	33%	tell them how to spell the word	21%
tell them to start over	25%	help them sound it out	21%
help them erase	8%	be their partner	9%
		tell them something to write	9%
		show them how	7%

6. What would your teacher do to help that person?

correct them	29%	make them do a lot	23%
show them how to write	17%	give them paper and some clues	18%
make them start over	17%	tell them to get a partner	18%
say the words and then let them sound it out	17%	tell them the spelling doesn't matter	9%
write it for them	8%	tell them what to write	5%
I don't know	8%	help them sound it out	5%

7. How did you learn to write?

teacher	38%	teacher	60%
mother	33%	parents	40%
family member	20%		
practice	8%		

	TC (N=24)		WLC (N=22)	
8.	Why do people write? Is being a good writer important?			
	it's important	26%	to say something	23%
	to send messages	21%	to spell	23%
	it's fun, they like it	21%	to read better	18%
	have to in school	17%	to learn	14%
	they want to	8%	to be a writer	9%
	to help others learn	4%		
9.	a. What do you like about writing?			
	interesting stories	50%	it's fun	41%
	drawing pictures	33%	writing long stories	23%
	it's fun	13%	helps you learn more	14%
	b. What do you not like?			
	getting it wrong messing up	50%	nothing	32%
	it's hard	13%	it's hard	23%
	nothing	13%	hand hurts	23%
	when your hand hurts	13%	messing up	9%

The Writing Interview
1987-88

Traditional Classrooms (N=31)		Emerging Whole Language Classrooms (N=30)	
1. a. When you are writing and encounter difficulty, what do you do?			
ask someone/tell the teacher	38%	ask someone	30%
think	12%	think/figure out	30%
don't know	12%	sound it out/spell it out	10%
sound out/spell out	12%	do your best	7%
look it up myself	9%	conference with teacher	7%
		look it up	7%
		skip it	7%
		write something else	3%
b. Do you ever do anything else?			
no	52%	read it back	26%
ask someone/ classmate	31%	ask teacher/ask classmate	26%
another source (book, center	6%	no	19%
try again	6%	try again	11%
think/figure out	6%	read more	7%
		spell it out	7%
		look around room	7%
2. When your writing is interrupted, what do you do?			
stop	20%	tell them to go away/be quiet	50%
tell teacher	20%	tell the teacher	14%
begin later	11%	read it over and start again	11%
move	11%	move somewhere	7%
erase	9%	ignore them	7%
ask them to wait	9%	take it to lunch	7%
keep going/ignore them	9%	don't know	3%
put paper on top of desk	6%		
I ask where I was	6%		
3. a. Who is a good writer that you know?			
names another child	42%	names another child	50%
names teacher	23%	names self	23%
names self	23%	names adult	10%
names an adult	13%	names teacher	10%
		names sibling	7%

	TC (N=31)		WLC (N=30)	
b. What makes him/her a good writer?				
	don't know	19%	likes to write/writes a lot	25%
	neatness	16%	practices	25%
	practice	16%	spells good	22%
	correctness	16%	she/he reads	11%
	can read the words	9%	she listens	7%
	drawing	6%	neat/pretty/writes slowly	7%
	tries hard	6%	teacher told me I could	7%
	takes time	6%		
	3rd grader who helps them	3%		
	makes same grades I make	3%		
4. a. Do you think that s/he encounters difficulty when s/he is writing?				
	no	39%	yes	67%
	sometimes	11%	no	26%
	don't know	4%	sometime	13%
			don't know	8%
b. If yes, what does he/she do?				
	don't know	24%	looks around room/get help	55%
	write it again	24%	asks teacher	15%
	asks someone	24%	thinks	11%
	thinks	21%	don't know	7%
	erases	10%	tries hard	3%
			skips it or sound it out	3%
			erases	3%
			guesses	3%
5. a. How did you learn to write?				
	parent(s)	38%	parent(s)	35%
	teacher helped	25%	teacher	32%
	practice/by reading	19%	siblings	23%
	sibling	6%	taught self	6%
	don't know	6%	grandparents	6%
	friend	6%		
b. What did they do to help?				
	help me/let me trace	30%	wrote and I copied (traced)	29%
	showed me how to use my pencil	19%	spelled/wrote for me	18%
	don't know	11%	held my hand and helped me write	11%

	TC (N=31)		WLC (N=30)	
	showed my my ABC's	11%	don't know	7%
	told me how to spell the words	11%	ABC's (letters)	7%
	flash cards/picture cards	7%	played school at home	7%
	made me write every day	7%	I just sat down with pencil and paper and started	7%
	wrote on the chalkboard and told me to do it just like that	4%		

6. a. Why do people write?

so they can learn how to so others can read it	29%	to help them understand learn	32%
want to	13%	they like to (fun)	20%
don't know	10%	to tell stories	16%
tell stories	6%	for business	8%
it's fun	6%	have to	4%
have to in school	6%	for school	4%
make their wrist strong	3%		
to spell	3%		
for business	3%		

b. Is being a good writer important?

yes	74%	yes	75%
no	19%	no	20%
sometimes	7%	sometimes	5%

c. Why?

don't know	33%	for when you grow up	24%
write stories	33%	might be an author	24%
to learn how	19%	learn a lot from writing	18%
when you grow up	10%	no-unless you're an adult	8%
		because your mother (others) knows how	8%
		makes you feel good	8%

	TC (N=31)		WLC (N=30)	
7. a. What do you like most about writing?				
	writing stories	38%	it's fun	45%
	its fun	15%	telling stories	14%
	helps me learn	15%	learning about spelling and words	14%
	nothing	12%	telling people things	14%
	being an artist	15%	nothing	10%
	cursive	15%	drawing	3%
	writing fast	6%		
b. What do you not like about writing?				
	don't know/ nothing	33%		
	it's hard/hand gets tired			

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